

METHOD OF USING MOLYBDENUM CARBIDE CATALYST

Abstract of the Disclosure

A molybdenum carbide compound is formed by reacting a molybdate with a mixture of hydrogen and carbon monoxide. By heating the molybdate powder from a temperature below 300 °C to maximum temperature 850 °C, a controlled reaction can be conducted wherein molybdenum carbide is formed. A high surface area, nanograin, metastable molybdenum carbide can be formed when the reaction temperature is below 750 °C. The metastable molybdenum carbide is particularly suitable for use as a catalyst for the methane dry reforming reaction and the water gas shift reaction.